

Landfill Design Plan

General

This fact sheet provides information required for the Ministry of Environment (the ministry) to expedite the approval process for designing a landfill. A person that intends to establish a landfill must apply for a permit from the Minister authorizing that person to establish the landfill. Owners/operators should contact their assigned environmental project officer for the application standards and to obtain approval.

Landfill owners may follow the landfill design best practices or best practices of a similar jurisdiction. Site information is required for any step in the design stage. If information is not available, a site assessment is required, including alteration of existing landfills. Owners may alter an existing site without a new permit if the original permit accounts for future alteration, or if there is acceptable site information.

Application

Landfill owners should submit the application through their assigned environmental project officer in order to receive a permit to construct or alter. The application should include the following information as appendices to the application:

- A. Site suitability report** – The site suitability report should describe the siting of the landfill and the results of the technical investigation. The technical investigation is used to fully characterize the site-specific design requirement and protect the environment. This information will also be used for the Operations Plan. The report should include:
- a) A site plan that details the topography and surface water hydrology within 1000 metres of the proposed site.
 - b) A statement or document describing the geologic and hydrogeological conditions.
- B. Design plan** – The report should include a design that meets the applicable best practices and should:
- a) Identify the location and the relationship with host site and surrounding community. For example, does the proponent own the site or is it operating on municipal land under contract? Will the proponent be providing specified services to the host community which may impact the operation?
 - b) Identify the type activity proposed, including volumes, types of wastes and anticipated waste tonnage to be disposed of each year and during the design life.
 - c) Considering the results of the technical investigation, include construction quality control assurance procedures and incorporate environmental protection through:
 - Seepage barrier system
 - Surface water management system
 - Groundwater monitoring system
 - Landfill gas management system
 - Leachate collection and management system
 - Final cover system
 - d) Include a site plan showing:
 - Legal site boundary
 - Location of site access, roads, earth works, buildings, and infrastructure
 - Hydrologic information, land use and other environmental information

Design verification

The landfill design plan should be prepared by a person who possesses the core skills and competencies to design a landfill. The landfill owner shall construct the landfill in accordance to the design.

The landfill owner should ensure by letter to the ministry that the landfill construction or alteration of an existing landfill has been carried out in accordance with the design plan. Upon receipt of verification, the owner has 90 days to submit the application to operate (if not provided with the Design Plan) in order to receive a permit to operate.

Landfill – A facility at which solid waste is permanently disposed of by placing it above or below ground (also Waste Disposal Ground).

Design Plan – Project planning for construction of a new landfill or alteration of an existing landfill, based on site characteristics.

Buffer zone – The area located between the existing waste footprint and the compliance boundary of the landfill.

Compliance boundary – The compliance boundary of a landfill is the property boundary as marked on the site plan, or the property boundary limits of the existing landfill.

Design life – The period during which the landfill is designed to accept waste.

Alteration – Expansion (trenches, new cells, addition of designated areas, etc.), process change and other modifications, based on site characteristics.

Expansion – A horizontal increase outside of the existing waste footprint of a landfill or a volumetric increase of the estimated or designed waste disposal capacity of the existing waste footprint of a landfill.

Owner of a landfill – A government agency or municipality or private owners.

Municipality – A municipality as defined in [The Interpretation Act, 1995](#), including the Saskatchewan portion of the City of Lloydminster

Private owner of a landfill – A person, other than a government agency or municipality that owns a landfill

Off site – Not on site.

On site – A substance on and completely contained within the boundaries of the property owned or occupied by the owner.

Waste storage area – The area within the compliance boundary of a transfer station that is designated or designed for the temporary storage of waste.

Waste footprint – The area within the compliance boundary of a landfill that is designated or designed for disposal of waste.

Contact and References

Saskatchewan Ministry of Environment
Tel: 1-800-567-4224 (toll free in North America)
or 306-787-2584
Web: www.environment.gov.sk.ca
Email: Centre.Inquiry@gov.sk.ca

Questions about hazardous waste refer to: [The Hazardous Substances and Waste Dangerous Goods Regulations](#).
Web: www.qp.gov.sk.ca/documents/English/Regulations/Regulations/E10-2R3.pdf